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BELANI, KISHIN G	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/636,005	WRIGHT ET AL.	
	Examiner	Art Unit	
	KISHIN G. BELANI	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5,7-12,14-24 and 26-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5,7-12,14-24 and 26-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/14/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Applicants' amendment filed on 09/14/2009. **Independent claims 22, 24, 26 and 28 have been amended**. **Claims 2-5, 7-12 and 14-28 are pending** in the present application. The applicants' amendments to claims are shown in ***bold and italics***, and the examiner's response to the amendments is shown in **bold** in this office action.

Specification

The applicants have not included, in paragraph 0001, the required reference to the copending application 10/636,432 (Patent Publication # 7,315,538 B2) by Wright et al. filed 08/07/2003 and issued 01/01/2008.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, the amendments, dated 09/14/2009, to claim 24 specifies "an aggregator to aggregate download and upload bandwidths of the asymmetric Ethernet connections to increase total download and upload bandwidth to the subscriber". A single aggregator will either aggregate traffic in upload direction or

download direction, but not in both directions, as Fig. 2 in the instant application shows. Two separate aggregators need to be employed to provide aggregation in both upload and download direction. Dependent claims 7-12 are also rejected because of their dependence on the rejected base claim 24.

Clam 26 recites similar amendment, and is rejected for the same reason. Dependent claims 14-21 and 27 are also rejected because of their dependence on the rejected base claim 26.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-5, 7-12, and 14-28 are rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent Publication # 7,315,538 B2 by Wright et al. filed 08/07/2003 and issued 01/01/2008, as shown in the correspondence table below:

Instant Application # 10/636,005 by Wright et al., filed 08/07/2003	U.S. Patent Publication # 7,315,538 B2 by Wright et al., filed 08/07/2003
Method claim 2: Upload speed from the first point of service faster than the download speed	Method claim 1: Communicate at a faster upload bandwidth than a download bandwidth at the first point of service
Method claim 3: Upload speed from the first point of service slower than the download speed	Method claim 1: Communicate at a faster download bandwidth than an upload bandwidth at

	the first point of service
Method claim 4: First ADSL modem providing an Ethernet port for connection to the Ethernet network; second ADSL modem providing a second Ethernet port for the first point of service; first and second ADSL modems communicate with each other.	Method claim 1: First ADSL modem at the first point of service (First modem in this corresponds to second modem in instant application); Second ADSL modem at the first point of service (second modem in this case corresponds to fourth modem [see claim 5] in instant application)
Method claim 5: Third ADSL modem providing a third port for connection to the Ethernet network; fourth ADSL modem providing a fourth Ethernet port for the first point of service; third and first ADSL Ethernet ports are aggregated, and fourth and second Ethernet ports are aggregated. See Fig. 2.	Method claim 1: Third ADSL modem at a second service point (Ethernet network) in data communication with the first ADSL modem (third modem in this corresponds to first modem [see claim 4] in instant application) Fourth ADSL modem at a second service point (Ethernet network) in data communication with the second ADSL modem (Fourth modem in this case corresponds to third modem in instant application); third and fourth ADSL modems and first and second ADSL

	modems are aggregated together. See Fig. 2.
System claim 7: A first ADSL modem provides an Ethernet port that connects to the Ethernet network's port; A second ADSL modem at the first point of service communicates with the first ADSL modem	System claims 14 and 12: An Ethernet capable device having an Ethernet port connected to an Ethernet switch; The third ADSL modem in data communication with the first ADSL modem
System claim 8: A third ADSL modem aggregated with the first ADSL modem; and A fourth ADSL modem in communication with the third ADSL modem, and aggregated with the second ADSL modem	System claim 12: A second aggregator to aggregate the third and fourth ADSL modem at the second point of service (third and fourth ADSL modems in this case correspond to the first and third ADSL modems in the instant application); A first aggregator to aggregate the first and second ADSL modem at the first point of service (first and second ADSL modems in this case correspond to the second and fourth ADSL modems in the instant application)

System claim 9: A first Ethernet switch aggregates the first and the third ADSL modems; and A second Ethernet switch aggregates the second and the fourth ADSL modems.	System claim 12, 13 and 19: A second aggregator to aggregate the third and fourth ADSL modem at the second point of service (third and fourth ADSL modems in this case correspond to the first and third ADSL modems in the instant application); A first aggregator to aggregate the first and second ADSL modem at the first point of service (first and second ADSL modems in this case correspond to the second and fourth ADSL modems in the instant application)
System claim 10: The first and second Ethernet switches perform rate shaping and load balancing	System claim 16-17: The Ethernet switch performs rate shaping and load balancing
System claim 11: Upload speed from the first point of service to the Ethernet network is faster than a download speed from the Ethernet network to the first point of service.	System claim 12: A second ADSL modem communicates at a faster upload bandwidth than a download bandwidth at the first service point.
System claim 12:	System claim 12:

Upload speed from the first point of service to the Ethernet network is slower than a download speed from the Ethernet network to the first point of service.	A first ADSL modem communicates at a faster download bandwidth than an upload bandwidth at the first service point.
System claim 14: A router positioned between the first point of service and a computer.	System claim 18: The first aggregator device comprises a router for connection to a network device.
System claim 15: An ADSL modem providing an Ethernet port of the Ethernet network.	System claim 14: The system further comprises one or more computers having an Ethernet port connected to the Ethernet switch.
System claim 16: The Ethernet network further comprises a second ADSL modem in communication with the (first) ADSL modem.	System claim 12: The third ADSL modem in data communication with the first ADSL modem (correspond to the first and second ADSL modems in instant application).
System claim 17: The Ethernet network further comprises a third ADSL modem in communication with the fourth ADSL modem; and Wherein the third ADSL modem is aggregated with the first and the fourth	System claim 12: See claims 7-9 of the instant application in this table.

ADSL modem is aggregated with the second ADSL modem.	
System claim 18: A first Ethernet switch aggregating the (first) ADSL modem with the third ADSL modem, and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem.	System claims 13 and 19: See claim 9 of the instant application in this table.
System claim 19: The first and the second Ethernet switches perform rate shaping and load balancing.	System claim 16 and 17: The Ethernet switch performs rate shaping and load balancing.
System claim 20: Upload speed from the first point of service is faster than a download speed.	System claim 12: See claim 11 of the instant application in this table.
System claim 21: Upload speed from the first point of service is slower than a download speed.	System claim 12: See claim 12 of the instant application in this table.
Method claim 22: See claim text.	Method claim 1: See claim text.
Method claim 23: Aggregating the plurality of ADSL Ethernet connections increases a bandwidth	Method claim 1: See explanation in the left column for claim 5 of the instant application in this

between the first point of service and the Ethernet network.	table.
System claim 24: See claim text.	System claim 12: See claim text.
System claim 26: See claim text.	System claim 12: See claim text.
System claim 27: Aggregated asymmetric Ethernet connections increase a bandwidth between the first point of service and the Ethernet network.	System claim 12: See explanation in the left column for claim 5 of the instant application in this table.
Method claim 28: See claim text.	Method claim 1: See claim text.

The applicants' request to hold the double-patenting rejection in abeyance until agreement on the allowable scope of the claims is reached is not accepted by the examiner, as the examiner is required to include all applicable types of rejections in every office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 22, 3-5, 24, 7, 8, 12, 26, 14-17, 21, 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Saussy (U.S. Patent Publication #**

5,936,963) in view of **Bareis (U.S. Patent Application Publication # 2008/0310436 A1).**

Consider **claim 22,** Saussy shows and discloses a system with a method of providing asymmetric Ethernet service (Abstract that describes a system using a public access medium to establish asymmetric full-duplex circuits connecting a premises device and a central device in order to provide asymmetric Ethernet service; Fig. 1, which shows a block 14 marked EAC (Ethernet Asymmetric Converter at the subscriber's premises) and a block 40 marked MUX or AEM (Asymmetric Ethernet Multiplexer at the Central Office) that together provide an asymmetric Ethernet service (with downstream data rate to the point of service of 10 Mbps and upstream data rate to the central office of 640 Kbps); column 3, lines 27-50 that disclose a method for providing asymmetric Ethernet service using subscriber premises device EAC and central office device AEM that aggregates data from a plurality of EAC devices into one or more Ethernet connections; column 4, lines 62-65 that disclose a method to establish asymmetric full-duplex circuits connecting a central location 6 and a node 8 at a remote point of service); comprising:

providing an Ethernet network remote from a point of service and in communication with the first point of service (Fig. 1, block 32 marked Ethernet representing subscriber's Ethernet node remote from the Ethernet network (shown as 10 Base T and 100 Base T arrows above the AEM MUX 40), but connected to it by ADSL communication path 12; column 2, lines 29-32, that disclose a high-speed bidirectional ADSL communication

path between a household or small office and the local telecommunication provider's central office, connecting the remote household to enterprise LAN);

establishing an asymmetric Ethernet communication between the Ethernet network and the first point of service to allow access to the Ethernet network by a subscriber, wherein establishing the asymmetric Ethernet communication comprises aggregating a plurality of asymmetric Ethernet connections between the Ethernet network and the first point of service ***to aggregate the upload bandwidth of the asymmetric Ethernet connections to increase total upload bandwidth to the subscriber*** (Fig. 1 that shows an asymmetric Ethernet communications connection between the Central Office MUX 40 that connects to the Ethernet network above it and the subscriber's Ethernet port 32. The download speed of 10 Mbps is clearly different from the upload speed of 640 Kbps, indicating asymmetric Ethernet connection; **furthermore, the AEM MUX 40 aggregates a plurality of nodes 1-N, each marked as 8 in Fig. 1, and located between the Ethernet network and the first point of service 22, each node 8 in combination with MUX 40 providing an asymmetric Ethernet connection to a subscriber; the aggregation increasing the total upload bandwidth (from subscriber node 22 to the aggregator 40); column 4, lines 17-39 disclose the details of AEM MUX 40**).

However, Saussy does not explicitly describe ***aggregating the download bandwidths of the asymmetric Ethernet connections to increase the total download bandwidth to the subscriber***; and communicating a subscriber data

communication between the first point of service and the Ethernet network via two or more of the aggregated asymmetric Ethernet connections.

In the same field of endeavor, Bareis shows and discloses the claimed method, further describing ***aggregating the download bandwidths of the asymmetric Ethernet connections to increase the total download bandwidth to the subscriber,*** and communicating a subscriber data communication between the first point of service and the Ethernet network via two or more of the aggregated asymmetric Ethernet connections **(Figs. 2 and 3a-3b, broadband multi-drop network bridge 86 that aggregates the download bandwidths of the asymmetric Ethernet connections to computers 50a-n, telephone sets 52a-n, digital set top equipment 60, network-ready appliances 58, etc. at the point of entry 82 to the subscriber's premise 80; paragraphs 0007-0010 and 0039-0049 disclose the same details).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to aggregate the download bandwidths of the asymmetric Ethernet connections to increase the total download bandwidth to the subscriber; and communicate a subscriber data communication between the first point of service and the Ethernet network via two or more of the aggregated asymmetric Ethernet connections, as taught by Bareis, in the method of Saussy, so that the needs of the users who require downloading large amount of data (such as HDTV streaming video data) to the first point of service from the Ethernet network can be met using ADSL technology.

Consider **claim 3**, **and as applied to claim 22 above**, Saussy, as modified by Bareis, further show and disclose the claimed method, wherein an upload speed from the first point of service to the Ethernet network through the asymmetric Ethernet communication is slower than a download speed from the Ethernet network through the asymmetric Ethernet communication to the first point of service (in Saussy reference, Fig. 1 that shows data rate of 10 Mbps from the Ethernet network to the subscriber's Ethernet port 32, but the upload data rate of only 640 Kbps from the subscriber's Ethernet port 32 to the Central Office MUX 40; column 4, lines 1-3 that disclose the same details).

Consider **claim 4**, **and as applied to claim 22 above**, Saussy, as modified by Bareis, further shows and discloses the claimed method, wherein establishing an asymmetric Ethernet communication between the Ethernet network and the first point of service comprises:

utilizing a first asymmetric DSL modem to provide a first Ethernet port for connection to the Ethernet network (in Saussy reference, column 4, lines 17-39 which disclose that the AEM (marked as MUX in Fig. 1) offers a large number of asymmetric link ports with transmit and receive inverted (so that many EACs [Ethernet Asymmetric Converters] can connect to the AEM, one of them from the subscriber's premises); further disclosing that AEM also offers one or more Ethernet ports for the enterprise LAN at the central office, operating at either 10 Mbps or at 100 Mbps, as shown in Fig. 1); and utilizing a second asymmetric DSL modem to provide a second Ethernet port for the first

point of service, where the first asymmetric DSL modem is in data communication with the second asymmetric DSL modem to carry the Ethernet communications asymmetrically (in Saussy reference, Fig. 1, EAC modem block 14 (a second ADSL modem) connected to a port of the MUX multi-modem block 40 (a plurality of the first asymmetric DSL modems) via asymmetric full-duplex circuit 12 connecting to local Ethernet port 20; column 5, lines 3-8 that describe EAC as an ADSL modem at the customer's premises connected to one of the AEM's (MUX in Fig. 1) modem by connection 12).

Consider **claim 5**, **and as applied to claim 4 above**, Saussy, as modified by Bareis, show and disclose the claimed method, wherein establishing an Ethernet communication between the Ethernet network and the first point of service further comprises:

utilizing a third asymmetric DSL modem to provide a third Ethernet port for connection to the Ethernet network, wherein the third Ethernet port of the third asymmetric DSL modem and the first Ethernet port of the first asymmetric DSL modem are aggregated at an aggregator device in communication with the Ethernet network (in Saussy reference, Fig. 1, block 8 marked as NODE (2) (which utilizes a third ADSL modem within MUX 40) and EAC block 14 (which utilizes a first ADSL modem within MUX 40) along with other nodes 1-N being aggregated by MUX block 40; column 4, lines 17-23 that disclose the aggregation of multiple ports into one or more Ethernet ports operating at 10 Mbps or 100 Mbps speed); and

utilizing a fourth asymmetric DSL modem to provide a fourth Ethernet port for the first point of service, wherein the fourth Ethernet port of the fourth asymmetric DSL modem and the second Ethernet port of the second asymmetric DSL modem are aggregated at the aggregator device at the first point of service (**in Bareis reference, Fig. 2, modem associated with one of the computers 50a-n (representing second asymmetric DSL modem) and network ready appliance 58 (representing a fourth asymmetric DSL modem) being aggregated by Multi-drop Network Bridge 86 (representing an aggregator device) at the demarcation point 82 of a first point of service**).

Consider **claim 24.** Saussy shows and discloses a system for providing asymmetric Ethernet service (Abstract that describes a system using a public access medium to establish asymmetric full-duplex circuits connecting a premises device and a central device in order to provide asymmetric Ethernet service; Fig. 1, which shows a block 14 marked EAC (Ethernet Asymmetric Converter at the subscriber's premises) and a block 40 marked MUX or AEM (Asymmetric Ethernet Multiplexer at the Central Office) that together provide an asymmetric Ethernet service (with downstream data rate to the point of service of 10 Mbps and upstream data rate to the central office of 640 Kbps); column 3, lines 27-50 that disclose a system for providing asymmetric Ethernet service using a subscriber premises device EAC and a central office device AEM that aggregates data from a plurality of EAC devices into one or more Ethernet connections; column 4, lines 62-65 that disclose a system to establish asymmetric

full-duplex circuits connecting a central location 6 and a node 8 at a remote point of service); the system comprising:

an Ethernet network including an Ethernet port (Fig. 1 that shows an Ethernet network (shown as 10 Base T and 100 Base T arrows above the AEM MUX 40) connecting to AEM MUX 40; column 4, lines 17-39 which disclose that AEM offers a large number of asymmetric link ports with transmit and receive inverted (so that many EACs can connect to the AEM));

a first point of service located remotely from the Ethernet network to allow access to the Ethernet network by a subscriber (Fig. 1, block 32 marked Ethernet representing subscriber's Ethernet node remote from the Ethernet network (shown as 10 Base T and 100 Base T arrows above the AEM MUX 40), but connected to it by ADSL communication path 12; column 2, lines 29-32, that disclose a high-speed bidirectional ADSL communication path between a household or small office and the local telecommunication provider's central office, connecting the remote household to an enterprise LAN);

a plurality of aggregated asymmetric Ethernet connections between the Ethernet network and the first point of service, and an aggregator ***to aggregate the upload bandwidth of the asymmetric Ethernet connections to increase total upload bandwidth to the subscriber*** (Fig. 1 that shows an asymmetric Ethernet communications connection between the Central Office MUX 40 that connects to the Ethernet network above it and the subscriber's Ethernet port 32; further showing the download speed of 10 Mbps different from the upload speed of 640 Kbps, indicating

asymmetric Ethernet connection; **furthermore, the AEM MUX 40 aggregates a plurality of nodes 1-N, each marked as 8 in Fig. 1, and located between the Ethernet network and the first point of service 22, each node 8 in combination with MUX 40 providing an asymmetric Ethernet connection to a subscriber; the aggregation increasing the total upload bandwidth (from subscriber node 22 to the aggregator 40); column 4, lines 17-39 disclose the details of AEM MUX 40**).

However, Saussy does not explicitly describe an aggregator to ***aggregate the download bandwidths of the asymmetric Ethernet connections to increase the total download bandwidth to the subscriber***; and to communicate a subscriber data communication between the first point of service and the Ethernet network via two or more of the aggregated asymmetric Ethernet connections.

In the same field of endeavor, Bareis shows and discloses the claimed system, further describing an aggregator **to *aggregate download bandwidths of the asymmetric Ethernet connections to increase total download bandwidth to the subscriber,*** and to communicate a subscriber data communication between the first point of service and the Ethernet network via two or more of the aggregated asymmetric Ethernet connections **(Figs. 2 and 3a-3b, broadband multi-drop network bridge 86 that aggregates the download bandwidths of the asymmetric Ethernet connections to computers 50a-n, telephone sets 52a-n, digital set top equipment 60, network-ready appliances 58, etc. at the point of entry 82 to the subscriber's premise 80; paragraphs 0007-0010 and 0039-0049 disclose the same details).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to aggregate the download bandwidths of the asymmetric Ethernet connections to increase the total download bandwidth to the subscriber; and communicate a subscriber data communication between the first point of service and the Ethernet network via two or more of the aggregated asymmetric Ethernet connections, as taught by Bareis, in the system of Saussy, so that the needs of the users who require downloading large amount of data (such as HDTV streaming video data) to the first point of service from the Ethernet network can be met using ADSL technology.

Consider **claim 7**, **and as applied to claim 24 above**, Saussy, as modified by Bareis, shows and discloses the claimed system further comprising a first ADSL modem providing an Ethernet port in communication with the Ethernet port of the Ethernet network (in Saussy reference, column 4, lines 17-23 which disclose that the AEM (marked as MUX in Fig. 1) offers a large number (including one selected to be a first asymmetrical DSL modem) of asymmetric link ports with transmit and receive inverted. AEM also offers one or more Ethernet ports for the enterprise LAN at the central office, operating at either 10 Mbps or at 100 Mbps, as shown in Fig. 1);
and a second ADSL modem at the first point of service in communication with the first ADSL modem to carry the Ethernet communications asymmetrically (in Saussy reference, Fig. 1, EAC block 14 and connection 20; column 5, lines 3-8 that describe

EAC as an ADSL modem at the customer's premises connected to one of the AEM's (MUX in Fig. 1) modem by connection 12).

Consider **claim 8**, **and as applied to claim 7 above**, Saussy, as modified by Bareis, shows and discloses the claimed system, wherein the Ethernet network further comprises:

a third ADSL modem aggregated with the first ADSL modern (in Saussy reference, Fig. 1, block 8 marked as NODE (2) (which utilizes a third ADSL modem within MUX 40) and EAC block 14 (which utilizes a first ADSL modem within MUX 40) along with other nodes 1-N being aggregated by MUX block 40; column 4, lines 17-23 that disclose the aggregation of multiple ports into one or more Ethernet ports operating at 10 Mbps or 100 Mbps speed); and

a fourth ADSL modem in communication with the third ADSL modem and being aggregated with the second ADSL modem to carry Ethernet communications asymmetrically (**in Bareis reference, Fig. 2, modems associated with computers 50a-n, etc.(representing a plurality of second asymmetric DSL modems) and network ready appliances 58 (representing a fourth asymmetric DSL modem) being aggregated by Multi-drop Network Bridge 86 (representing an aggregator device) at the demarcation point 82 of a first point of service**).

Consider **claim 12**, **and as applied to claim 24 above,** Saussy, as modified by Bareis, further shows and discloses the claimed system, wherein an upload speed from

the first point of service to the Ethernet network is slower than a download speed from the Ethernet network to the first point of service (in Saussy reference, Fig. 1 that shows data rate of 10 Mbps from the Ethernet network to the subscriber's Ethernet port, but the upload data rate of only 640 Kbps from the subscriber's Ethernet port 32 to the Central Office MUX 40; column 4, lines 1-3 that disclose the same details).

Consider **claim 26.** Saussy shows and discloses a system for providing asymmetric Ethernet service to a network device of a subscriber (Abstract that describes a system using a public access medium to establish asymmetric full-duplex circuits connecting a subscriber's premises device and a central device in order to provide asymmetric Ethernet service; Fig. 1, which shows a block 14 marked EAC (Ethernet Asymmetric Converter at the subscriber's premises) and a block 40 marked MUX or AEM (Asymmetric Ethernet Multiplexer at the Central Office) that together provide an asymmetric Ethernet service (with downstream data rate to the point of service of 10 Mbps and upstream data rate to the central office of 640 Kbps); column 3, lines 27-50 that disclose a system for providing asymmetric Ethernet service using a subscriber premises device EAC and a central office device AEM that aggregates data from a plurality of EAC devices into one or more Ethernet connections; column 4, lines 62-65 that disclose a system to establish asymmetric full-duplex circuits connecting a central location 6 and a node 8 at a remote point of service); the system comprising: an Ethernet network including an Ethernet port (Fig. 1 that shows an Ethernet network (shown as 10 Base T and 100 Base T arrows above the AEM MUX 40) connecting to

AEM MUX 40; column 4, lines 17-39 which disclose that AEM offers a large number of asymmetric link ports with transmit and receive inverted (so that many EACs can connect to the AEM));

a first point of service located remotely from the Ethernet network (Fig. 1, block 32 marked Ethernet representing subscriber's Ethernet node remote from the Ethernet network (shown as 10 Base T and 100 Base T arrows above the AEM MUX 40), but connected to it by ADSL communication path 12; column 2, lines 29-32, that disclose a high-speed bidirectional ADSL communication path between a household or small office and the local telecommunication provider's central office, connecting the remote household to an enterprise LAN);

a first asymmetric Ethernet connection between the first point of service and the Ethernet port of the Ethernet network (Fig. 1 that shows a first asymmetric Ethernet communications connection between the Central Office MUX 40 that connects to the Ethernet network above it and a subscriber's (first point of service) Ethernet port 32; further showing the download speed of 10 Mbps different from the upload speed of 640 Kbps, indicating asymmetric Ethernet connection);

a second asymmetric Ethernet connection between the ***first*** point of service and the Ethernet port of the Ethernet network (Fig. 1 that shows a plurality of nodes 1-N that can connect to MUX 40 that provides connection to Ethernet port/s of the Ethernet network, any number of which may be used by a subscriber (one example of which is shown in Fig. 1 at the subscriber's network node 22), providing more than one asymmetric Ethernet connections [Note: This claim element is also shown and disclosed in the

Bareis reference below that in **Fig. 2 shows a subscriber premise 80 (a first point of service) with a plurality of computers 50a-n supplied with a first set of asymmetric Ethernet connections by the Ethernet port of the Multi-drop Network Bridge 86 of the Ethernet network; telephones 52a-n, supplied with a second set of asymmetric Ethernet connections by the Ethernet port of the Multi-drop Network Bridge 86 of the Ethernet network; network-ready appliance 58, supplied with a third asymmetric Ethernet connection by the Ethernet port of the Multi-drop Network Bridge 86 of the Ethernet network; etc.; paragraphs 0007-0010 and 0039-0049 disclose the same details**]); and

a second aggregator device coupled to the Ethernet network to aggregate the first and the second asymmetric Ethernet connections, to aggregate upload bandwidths of the asymmetric Ethernet connections to increase total upload bandwidth to the subscriber **(Fig. 1 that shows an AEM MUX 40 which aggregates a plurality of nodes 1-N, each marked as 8 in Fig. 1, each node 8 in combination with MUX 40 providing an asymmetric Ethernet connection to a subscriber; the aggregation increasing the total upload bandwidth (from subscriber node 22 to the aggregator 40); column 4, lines 17-39 disclose the details of AEM MUX 40).**

However, Saussy does not explicitly describe ***a first*** aggregator device ***coupled to the first point of service*** to aggregate the first and second asymmetric Ethernet connections, ***to aggregate the download bandwidth of the asymmetric Ethernet connections to increase total download bandwidth to the subscriber; and to communicate a subscriber data communication between the first point of service***

and the Ethernet port of the Ethernet network via the first and second asymmetric Ethernet connections.

In the same field of endeavor, Bareis shows ***a first*** aggregator device ***coupled to the first point of service*** to aggregate the first and second asymmetric Ethernet connections, ***to aggregate the download bandwidth of the asymmetric Ethernet connections to increase total download bandwidth to the subscriber*** **(Fig. 2, Multi-drop Network Bridge 86 (a first aggregator device) which is coupled to the first point of service at the demarcation point 82 of a subscriber's premise 80; further showing a plurality of computers 50a-n supplied with a first set of asymmetric Ethernet connections by the Ethernet port of the Multi-drop Network Bridge 86 of the Ethernet network; and telephones 52a-n, supplied with a second set of asymmetric Ethernet connections by the Ethernet port of the Multi-drop Network Bridge 86 of the Ethernet network; wherein device 86 is used to aggregate the first and second asymmetric Ethernet connections, so as to aggregate the download bandwidth of the asymmetric Ethernet connections to increase the total download bandwidth to the subscriber; paragraphs 0007-0010 and 0039-0049 disclose the same details);** ***and***

to communicate a subscriber data communication between the first point of service and the Ethernet port of the Ethernet network via the first and second asymmetric Ethernet connections **(Figs. 2 and 3a-3b, broadband multi-drop network bridge 86 that aggregates the download bandwidths of the asymmetric Ethernet connections to computers 50a-n, telephone sets 52a-n, digital set top**

equipment 60, network-ready appliances 58, etc. at the point of entry 82 to the subscriber's premise 80; paragraphs 0007-0010 and 0039-0049 disclose the same details).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide a first aggregator device coupled to the first point of service to aggregate the first and second asymmetric Ethernet connections, to aggregate the download bandwidth of the asymmetric Ethernet connections to increase total download bandwidth to the subscriber; and to communicate a subscriber data communication between the first point of service and the Ethernet port of the Ethernet network via the first and second asymmetric Ethernet connections, as taught by Bareis, in the system of Saussy, so that the needs of the users who require downloading large amount of data (such as HDTV streaming video data) to the first point of service from the Ethernet network can be met using ADSL technology.

Consider **claim 14**, **and as applied to claim 26 above**, Saussy, as modified by Bareis, further disclose the claimed system, wherein the first Ethernet connection between the first point of service and the network device of the subscriber includes a router positioned between the first point of service and a computer (in Saussy reference, Abstract that discloses a premises device is attached to any network node (such as a personal computer, LAN bridge/router, terminal server, etc.) which offers an Ethernet interface; column 3, lines 34-37 that disclose a router between the point of service and a computer).

Consider **claim 15**, **and as applied to claim 26 above**, Saussy, as modified by Bareis, disclose the claimed system, further comprising an ADSL modem providing an Ethernet port of the Ethernet network (in Saussy reference, Fig. 1, line marked 10 Base T / 100 Base T that represents a connection to an Ethernet port of the Ethernet network; column 4, lines 20-23 which disclose that the AEM provides connections for one or more Ethernet ports of the Ethernet network).

Consider **claim 16**, and **as applied to claim 15 above**, Saussy, as modified by Bareis, disclose the claimed system, wherein the Ethernet network further comprises a second ADSL modem in communication with the first ADSL modem (in Saussy reference, Fig. 1, EAC block 14 (a second ADSL modem); column 5, lines 3-8 that describe EAC as an ADSL modem at the customer's premises connected to one of the AEM's (MUX in Fig. 1) modem (the first ADSL modem) by connection 12).

Consider **claim 17**, **and as applied to claim 16 above**, Saussy, as modified by Bareis, disclose the claimed system, wherein the Ethernet network further comprises a third ADSL modem aggregated with the ADSL modem (in Saussy reference, Fig. 1, block 8 marked as NODE (2) (third ADSL modem) and EAC block 14 (first ADSL modem) along with other nodes being aggregated by MUX block 40; column 4, lines 17-23 that disclose the aggregation of multiple ports into one or more Ethernet ports operating at 10 Mbps or 100 Mbps speed); and

further comprises a fourth ADSL modem in communication with the third ADSL modem and being aggregated with the second ADSL modem (**in Bareis reference, Fig. 2, modem associated with one of the computers 50a-n (representing second asymmetric DSL modem) and network ready appliance 58 (representing a fourth asymmetric DSL modem) being aggregated by Multi-drop Network Bridge 86 (representing an aggregator device) at the demarcation point 82 of a first point of service**).

Consider **claim 21**, **and as applied to claim 26 above**, Saussy, as modified by Bareis, disclose the claimed system, wherein an upload speed from the first point of service to the service provider network is slower than a download speed from the service provider network to the first point of service (in Saussy reference, Fig. 1, where the speed from the first point of service to the Ethernet network is marked by the upward arrow showing a data rate of 640 Kbps, and the speed from the Ethernet network to the first point of service is marked by the downward arrow showing a data rate of 10 Mbps; column 4, lines 1-3 that disclose the same details).

Consider **claim 23**, **and as applied to claim 22 above**, Saussy, as modified by Bareis, disclose the claimed method, wherein aggregating the plurality of asymmetric Ethernet connections increases a bandwidth between the first point of service and the Ethernet network (in Saussy reference, Fig. 1, where the bandwidth from the first point of service to the Ethernet network increases from 10 Mbps download and 640 Kbps

upload at the first point of service to 100 Mbps after aggregation through MUX 40; column 4, lines 1-25 disclose the same details).

Consider **claim 27**, **and as applied to claim 26 above**, Saussy, as modified by Bareis, disclose the claimed system, wherein the first and second asymmetric Ethernet connections increase a bandwidth between the first point of service and the Ethernet network (in Saussy reference, Fig. 1, where the bandwidth from the first point of service to the Ethernet network increases from 10 Mbps download and 640 Kbps upload at the first point of service to 100 Mbps after aggregation through MUX 40; column 4, lines 1-25 disclose the same details).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Saussy (U.S. Patent Publication # 5,936,963)** in view of **Bareis (U.S. Patent Application Publication # 2008/0310436 A1)** and further in view of **Redfern** (**U.S. Patent Application Publication 2003/0198217 A1).**

Consider **claim 2**, **and as applied to claim 22 above,** Saussy, as modified by Bareis, shows and discloses the claimed method except wherein an upload speed from the first point of service to the Ethernet network through the asymmetric Ethernet communication is faster than a download speed from the Ethernet network through the asymmetric Ethernet communication to the first point of service.

In the same field of endeavor, Redfern describes a user that requires upload speed from the first point of service to the Ethernet network through the asymmetric Ethernet communication faster than the download speed from the Ethernet network through the asymmetric Ethernet communication to the first point of service (paragraphs 0006, lines 1-7; paragraph 0009; Fig. 4 and paragraph 0010, that disclose an apparatus and a method for providing extended upstream data transmission an additional frequency band between f1 and f2 originally reserved for download communication from central office to the subscriber) and lowering the power spectral density in that frequency band to minimize cross-talk).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide the upload speed from the first point of service to the Ethernet network through the asymmetric Ethernet communication faster than the download speed from the Ethernet network through the asymmetric Ethernet communication to the first point of service, as taught by Redfern, in the method of Saussy, as modified by Bareis, so that the needs of the users who are required to transmit large amount of data from the first point of service to the Ethernet network can also be met using ADSL technology.

Consider **claim 11**, **and as applied to claim 24 above,** Saussy, as modified by Bareis, shows and discloses the claimed system, except wherein an upload speed from the first point of service to the Ethernet network is faster than a download speed from the Ethernet network to the first point of service.

In the same field of endeavor, Redfern describes the claimed system, wherein an upload speed from the first point of service to the Ethernet network is faster than a download speed from the Ethernet network to the first point of service (paragraphs 0006, lines 1-7; paragraph 0009; Fig. 4 and paragraph 0010, that disclose a system for providing extended upstream data transmission an additional frequency band between f1 and f2 originally reserved for download communication from central office to the subscriber) and lowering the power spectral density in that frequency band to minimize cross-talk).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide the upload speed from the first point of service to the Ethernet network faster than the download speed from the Ethernet network to the first point of service, as taught by Redfern in the system of Saussy, as modified by Bareis, so that the needs of the users who are required to transmit large amount of data from subscriber to the Ethernet network can be met.

Consider **claim 20**, **and as applied to claim 14 above,** Saussy, as modified by Bareis, disclose the claimed system, except wherein an upload speed from the first point of service to the service provider network is faster than a download speed from the service provider network to the first point of service.

In the same field of endeavor, Redfern describes users that require upload speed from the first point of service to the Ethernet network through the asymmetric Ethernet communication faster than the download speed from the Ethernet network through the

asymmetric Ethernet communication to the first point of service (paragraphs 0006, lines 1-7; paragraph 0009; Fig. 4 and paragraph 0010, that disclose a system for providing extended upstream data transmission an additional frequency band between f1 and f2 originally reserved for download communication from central office to the subscriber) and lowering the power spectral density in that frequency band to minimize cross-talk).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide an upload speed from the first point of service to the Ethernet network faster than a download speed from the Ethernet network to the first point of service, as taught by Redfern in the system of Saussy, as modified by Bareis, so that the needs of the users who are required to transmit large amount of data from subscriber to the Ethernet network can also be met.

Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Saussy** (**U.S. Patent Publication # 5,936,963)** in view of **Bareis (U.S. Patent Application Publication # 2008/0310436 A1)** and further in view of **Deng** (**U.S. Patent Publication 6,243,394 B1).**

Consider **claim 9**, **and as applied to claim 8 above,** Saussy, as modified by Bareis, shows and discloses the claimed system, except further comprising a first Ethernet switch aggregating the first ADSL modem with the third ADSL modem and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem (Note: Saussy does aggregate communications from a first and a third ADSL

modem, but uses multi-modem AEM MUX 40 instead of a switch, likewise Bareis uses Multi-drop network bridge 86 for aggregating, not a switch).

In the same field of endeavor, Deng discloses the claimed system, further comprising a first Ethernet switch aggregating the first ADSL modem with the third ADSL modem and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem (Fig. 1, ADSL Access Device block 14 (first Ethernet switch) aggregating connection 22 (for the first ADSL modem) with connection 24 (for the third ADSL modem) and ADSL Access Device block 40 (second Ethernet switch) aggregating unmarked workstation to the left (via the second ADSL modem) with LAN block 50 (via the fourth ADSL modem)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide a first Ethernet switch aggregating the first ADSL modem with the third ADSL modem and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem, as taught by Deng in the system of Saussy, as modified by Bareis, so that data from more than one subscriber ports can be aggregated and sent over a single connection as a cost effective data transmission system.

Consider **claim 18**, **and as applied to claim 17 above,** Saussy, as modified by Bareis, show and disclose the claimed system, except wherein the Ethernet network further comprises a first Ethernet switch aggregating the ADSL modem with the third

ADSL modem and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem.

In the same field of endeavor, Deng discloses a first Ethernet switch aggregating the first ADSL modem with the third ADSL modem and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem (Fig. 1, ADSL Access Device block 14 (first Ethernet switch) aggregating connection 22 (for the first ADSL modem) with connection 24 (for the third ADSL modem) and ADSL Access Device block 40 (second Ethernet switch) aggregating unmarked workstation to the left (via the second ADSL modem) with LAN block 50 (via the fourth ADSL modem)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide a first Ethernet switch aggregating the first ADSL modem with the third ADSL modem and a second Ethernet switch aggregating the second ADSL modem with the fourth ADSL modem, as taught by Deng in the system of Saussy, as modified by Bareis, so that data from more than one subscriber ports can be aggregated and sent over a single connection as a cost effective data transmission method.

Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Saussy** (**U.S. Patent Publication # 5,936,963)** in view of **Bareis (U.S. Patent Application Publication # 2008/0310436 A1)** and further in view of **Deng** (**U.S. Patent Publication 6,243,394 B1)** and further in view of **Olshansky et al.** (**U.S. Patent Publication 6,061,357).**

Consider **claim 10**, **and as applied to claim 9 above,** Saussy, as modified by Bareis and Deng, shows and discloses the claimed system, except wherein the first and second Ethernet switches perform rate shaping and load balancing when transferring data.

In the same field of endeavor, Olshansky et al., disclose the claimed system, wherein the first and second Ethernet switches perform rate shaping and load balancing when transferring data (Fig. 3, Ethernet to ADSL adapter block 110, wherein Controller 130 balances load by issuing jamming commands and Pause/Resume commands during data flow through AE Buffer 122 and EA buffer 120; Figs. 4-7 and column 4, lines 22-67; column 5, lines 1-67; column 6, lines 1-48 that respectively describe load balancing and rate shaping during receive operation at Ethernet network port (Fig. 4), during transmit operation to ADSL modem (Fig. 5), during receive operation from ADSL modem (Fig. 6), and during transmit operation from Ethernet network port (Fig. 7)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to provide the first and second Ethernet switches that perform rate shaping and load balancing when transferring data, as taught by Olshansky et al. in the system of Saussy, as modified by Bareis and Deng, so that asymmetrical upload and download data rates of ADSL data transmission can be managed without data being overwritten in the buffers that temporarily hold data packets.

Consider **claim 19**, **and as applied to claim 18 above,** Saussy, as modified by Bareis and Deng, show and disclose the claimed system except wherein the first and second Ethernet switches perform rate shaping and load balancing when transferring data.

In the same field of endeavor, Olshansky et al. disclose the claimed system wherein the first and second Ethernet switches perform rate shaping and load balancing when transferring data (Fig. 3, Ethernet to ADSL adapter block 110, wherein Controller 130 balances load by issuing jamming commands and Pause/Resume commands during data flow through AE Buffer 122 and EA buffer 120; Figs. 4-7 and column 4, lines 22-67; column 5, lines 1-67; column 6, lines 1-48 that respectively describe load balancing and rate shaping during receive operation at Ethernet network port (Fig. 4), during transmit operation to ADSL modem (Fig. 5), during receive operation from ADSL modem (Fig. 6), and during transmit operation from Ethernet network port (Fig. 7)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to also provide the first and second Ethernet switches that perform rate shaping and load balancing when transferring data, as taught by Olshansky et al., in the system of Saussy, as modified by Bareis and Deng, so that asymmetrical upload and download data rates of ADSL data transmission can be managed without data being overwritten in the buffers that temporarily hold data packets.

Allowable Subject Matter

Independent claim 28 is rejected based on the ground of **non-statutory obviousness-type double patenting** as being unpatentable over claim 1 of U.S. Patent Publication # 7,315,538 B2 by Wright et al. filed 08/07/2003 and issued on 01/01/2008. **Independent claim 28 may be allowable** if the applicants file a timely terminal disclaimer, and cancels claims 2-5, 7-12, 14-24, and 26-27. The following is a statement of reasons for the indication of allowable subject matter:

Consider **claim 28,** the best prior art found during the examination of the present application, **Saussy (U.S. Patent Publication # 5,936,963)** in view of **Bareis (U.S. Patent Application Publication # 2008/0310436 A1),** fail to specifically disclose the limitation of simultaneously aggregating communication data both at a first subscriber's location and at an Ethernet network, thereby providing increased bandwidth to a subscriber in both the upload and the download direction simultaneously, while still maintaining asymmetry.

Response to Arguments

Applicants' arguments with respect to **claims 1-5, 7-12, 14-24, and 26-27** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-0800.

/K. G. B./
Examiner, Art Unit 2443

November 16, 2009

/George C Neurauter, Jr./
Primary Examiner, Art Unit 2443